MDOT
Michigan Department of Transportation

ENGINEERING OPERATIONS COMMITTEE
MEETING MINUTES
MAY 7, 2002 - 9:00 A.M.
EXECUTIVE CONFERENCE ROOM

Present:	L. E. Tibbits	G. D. Taylor	J. D. Culp
	C. Roberts	J. D. O'Doherty	T. Davies
	J. W. Reincke	T. Fudaly	
Guests:	J. Friend	B. Lower	M. Bott
	T. Anderson	W. Stebbins	T. Myers
	K. Kennedy	J. T. LaVoy	

OLD BUSINESS

1. **Approval of the Minutes of the April 4, 2002, Meeting - L. E. Tibbits**

   Minutes of the April 4, 2002, meeting were approved.

2. **Approval of the 2002 Edition of the *Maintenance Guidelines for Work Zone Traffic Control* (See March 12, 2002, Minutes, New Business, Item 3) - B. Lower/C. Roberts**

   Maintenance reviewed comments they received from the Traffic and Safety Division regarding the five areas in potential conflict with MMUTCD, Part 6. Most of the issues were satisfactorily resolved.

   ACTION: EOC would like to review the document further and approval will be considered at the June 6 meeting. Maintenance should be prepared to discuss the issue of reducing the speed limit in temporary work zones in one step.

NEW BUSINESS

1. **Pavement Selections - K. Kennedy**

   A. **M-53 Reconstruction: CS 50012, JN 47040/Bituminous Pavement Selection**

   The reconstruction alternates considered were a bituminous pavement (Alternate 1 - Equivalent Uniform Annual Cost [EUAC] $46,222/kilometer), and a jointed plain concrete pavement (Alternate 2 - EUAC $47,063/kilometer).

   A life cycle cost analysis was performed and Alternate 1 was approved based on having the lowest EUAC. The pavement design and cost analysis summary are as follows:

Alternate 1A (33.3 Percent of the Project) Reconstruction: Bituminous Pavement (Three Lanes)

38mm . . . . . Bituminous Mix 5E10, Top Course
50mm . . . . . Bituminous Mix 4E10, Leveling Course
79mm . . . . . Bituminous Mix 3E10, Base Course
95mm . . . . . Bituminous Mix 3E10, Base Course
140mm . . . . . Bituminous Mix 4C and 3C (Shoulders)
160mm . . . . . Aggregate Base (282 mm Shoulders)
460mm . . . . . Subbase
150mm . . . . . Subbase Underdrains
882mm . . . . . Total Thickness

Alternate 1B (66.7 Percent of the Project) Reconstruction: Bituminous Pavement (Two Lanes)

38mm . . . . . Bituminous Mix 5E10, Top Course
50mm . . . . . Bituminous Mix 4E10, Leveling Course
79mm . . . . . Bituminous Mix 3E10, Base Course
95mm . . . . . Bituminous Mix 3E10, Base Course
140mm . . . . . Bituminous Mix 4C and 3C (Shoulders)
160mm . . . . . Aggregate Base (282 mm Shoulders)
460mm . . . . . Subbase
150mm . . . . . Subbase Underdrains
882mm . . . . . Total Thickness

Present Value Initial Construction Costs $418,880/kilometer
Present Value Initial User Costs $307,581/kilometer
Present Value Maintenance Costs $81,138/kilometer

EUAC . . . . . $46,222/directional kilometer

B. **I-75 Rehabilitation: CS 65041, JN 45824/Rubblize and Hot Mix Asphalt (HMA) Overlay Selection**

The rehabilitation alternates considered were a rubblize and HMA overlay (Alternate 1 - EUAC $21,798/directional mile), and an unbonded jointed plain concrete overlay (Alternate 2 - EUAC $25,154/directional mile).

A life cycle cost analysis was performed and Alternate 1 was approved based on having the lowest EUAC. The pavement design and cost analysis summary are as follows:

1.5" . . . . . HMA 5E10, Top Course
2" . . . . . HMA 4E10, Leveling Course
3" . . . . . HMA 3E10, Base Course
6.5" . . . . . HMA 4C and 3C (Outside Shoulder)
9" . . . . . Rubblized Concrete
13" . . . . . Existing Base/Subbase Underdrain System
28.5" . . . . . Total Thickness

Present Value Initial Construction Costs . . . . . $272,770/directional mile
Present Value Initial User Costs . . . . . $14,865/directional mile
Present Value Maintenance Costs . . . . . $83,613/directional mile

EUAC . . . . . $21,798/directional mile

C. **I-69 Reconstruction, CS 12034/13073, JN 50775/Jointed Plain Concrete Pavement Using a P1 Modified Concrete Selection**

The reconstruction alternates considered were a HMA pavement (Alternate 1 - EUAC $44,243/directional mile), and a jointed concrete pavement using a P1 modified concrete (Alternate 2 - EUAC $41,948/directional mile).

A life cycle cost analysis was performed and Alternate 2 was approved based on having the lowest EUAC. The pavement design and cost analysis summary are as follows:

11" . . . . . Jointed Plain Concrete Pavement (Mainline) (15' Joint Spacing)
Freeway Shoulder Option (Design According to R-110 Series)
4" . . . . . Open Graded Drainage Course Geotextile Separator
12" . . . . . Proposed Sand Subbase
6" . . . . . Open Graded Underdrains
27" . . . . . Total Thickness

Present Value Initial Construction Costs . . . . . $589,840/directional mile
Present Value Initial User Costs . . . . . $50,599/directional mile
Present Value Maintenance Costs . . . . . $110,400/directional mile

EUAC . . . . . $41,948/directional mile

2. **Value Engineering Procedures - W. Stebbins**

The FHWA requested that we develop written procedures for our Value Engineering (VE) process. The regions were also asking for better guidance when dealing with VE projects. The draft procedures were written and have been reviewed by systems managers, the FHWA, and region liaisons Brian Ness and Thom Davies.

ACTION: The guidelines are approved. It was suggested they be placed in the *Road Design Manual*. The final placement determination will be reported on at the next EOC meeting. (Note: Carlos Libiran later confirmed their probable inclusion in the *Road Design Manual*, Chapter 14, Procedures.)

3. **Deer-Vehicle Crash Research Proposals - J. W. Reincke/J. D. O'Doherty**

Research funding is being requested for two research studies being promoted by the Michigan Deer Crash Coalition (MDCC), a public and private sector group of which MDOT is a member. The goal of the research is to significantly mitigate the number and severity of deer-vehicle crashes in the state. MDCC will use the research results to direct its collective resources on community education and public information programs. Financial support for the studies is being requested from MDOT and MDNR.

ACTION: Approval was not given at this time. The MDCC will be requested to gather financial support or commitments from the private sector, as well as from the state. If this is to be a coalition partnership project, there must be some funding commitments from the other non-public members. John O'Doherty will contact MDCC and return this item to EOC at a later date.

(Signed Copy on File at C&T)
Jon W. Reincke, Secretary
Engineering Operations Committee

JWR:kat

cc:

EOC Members	J. Ruszkowski	K. Rothwell	J. Murner (MRPA)
Region Engineers	R. D. Till	T. E. Myers	M. Nystrom (AUC)
G. J. Rosine	C. Libiran	T. Phillips	R. J. Risser, Jr. (MCPA)
C. T. Maki	M. Frierson	D. L. Smiley	A. C. Mile (MRBA)
J. Friend	G. J. Bukoski	K. Peters	J. Becsey (MAPA)
T. Anderson	C. W. Whiteside	T. L. Nelson	D. Hollingsworth (MCA)
R. J. Lippert, Jr.	L. Stornant	J. Steele (FHWA)	M. Newman (MAA)